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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,061	08/04/2000	Hong Joo Kim	8737.20016	1409

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EXAMINER	
NGUYEN, HAU H	

ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/633,061	KIM, HONG JOO	
	Examiner	Art Unit	
	Hau H. Nguyen	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) *2-4 and 8-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-7 and 11-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02/25/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed April 22, 2005 have been fully considered but they are not persuasive.

In response to Applicant's argument that the cited references either singly or in combination does not teach "each of the 'n' second signal lines is electrically connected to a respective one of the 'n' first signal lines," the examiner disagrees.

In fact, as shown in Figs. 22 and 23, reference Kim (US 6,262,785) teaches signals transmitted from a main body 400 are divided in the controller 500, transmitted to first and second driver ICs 510 and 530, then applied to first and second LCDs 520 and 540 to realize the display of a single image (col. 8, lines 28-32). Fig. 23 shows the common driver ICs 309 and 329 sequentially apply voltage values corresponding to first and second rows of scanning electrodes 311 and 331, respectively. The divided first and second PCBs 307 and 327 are connected through a wire 345, which is flexible to enable the folding and spreading apart of the first and second liquid crystal panels 301 and 321 (col. 8, lines 42-51). Because the LCDs 301 and 321 display a single image, and the connection of the signal lines and scanning lines are shown in Fig. 23, each of the first scanning lines is *electrically connected* to each of the second scanning lines, and likewise each of the first signal lines is *electrically connected* to each of the second signal line, respectively.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 13-14, 18-21, and 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim (U.S. Patent No. 6,262,785).

Referring to claims 13, 19, 20 and 26, as shown in Figs. 19, 21, and 23, Kim teaches a mobile device movable between an open position and a close position, having a first liquid crystal display 301 and a second liquid crystal display 321. As shown in Fig. 23, Kim teaches the first LCD display 301 includes a plurality of first signal electrodes 313 and a plurality of first scan electrodes 311. The second LCD display 321 includes a plurality of second signal electrodes 333, and a second plurality of scan electrodes 331. Kim further teaches a control portion 350 (a single operator) is connected to either the first PCB 307 or the second PCB 327 via a signal supply line 340. The control portion 350 applies scanning signals to the common driver ICs 309 and to segment driver ICs 305 and 325, the segment driver ICs 305 and 325 respectively controlling rows of data electrodes 313 and 333 to ON and OFF states (col. 8, lines 34-57).

In regard to claims 14 and 21, as shown in Fig. 22, Kim teach a controller 500 to control the first and second displays.

In regard to claims 18 and 25, Kim teaches the first display device and the second display device are connected to each other by flexible signal lines (col. 3, lines 8-10, and col. 8, lines 48-51).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 5-7, 11-12, 27, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higginbotham et al. (U.S. Patent No. 5,896,575) in view of Kim (U.S. Patent No. 6,262,785).

Referring to claims 1, 5-7, 11-12, 27, as shown in Figs. 1 and 2, Higginbotham et al. teach a portable radio messaging device 100 having its display 114 in a first (closed) position. The device 100 comprises a display portion 102 and a base portion 104. The display portion 102 and the base portion 104 are rotatably coupled at a common edge by a hinge 106. The display further comprises a first side 116 (first display means) and a second side 118 (second display means) (FIG. 2) facing in opposite directions. Both sides 116, 118 are usable for viewing information displayed on the display 114 (col. 2, lines 15-25). As shown in Fig. 6, Higginbotham et al. teach when the display portion 102 is in the first (closed) position, the permanent magnet 602 is proximate the magnetic reed switch 602, and the magnetic reed switch

604 assumes an operative state which indicates to the processing system 806 that the display portion 102 is in the first (closed) position (col. 3, line 67, and col. 4, lines 1-5). As shown in Fig. 7, Higginbotham et al. teach the display portion 102 is in the second (open) position, the permanent magnet 602 is remote from the magnetic reed switch 604, and the magnetic reed switch 604 assumes state which indicates to the processing system 806 that the display portion 102 is in the second (open) position. (Thus, the switch enables one display and disables anther display). With reference to Fig. 8, Higginbotham et al. also teach the microprocessor 808 and the display position detector 606 cooperate to flip the displayed image in order to maintain a correct orientation of the image, in response to the display portion 102 being moved from the first (closed) position to the second (open) position (col. 4, lines 36-40). Higginbotham et al. further teach the display 500 (Fig. 5) can be a liquid crystal display device (col. 3, lines 52-54).

Thus, Higginbotham et al. teach all the limitations of claims 1, 5-7, and 11-12, except for an operator for operating the first and second display means.

However, as cited above, and as shown in Figs. 19, 21, and 23, Kim teaches a mobile device movable between an open position and a close position, having a first liquid crystal display 301 and a second liquid crystal display 321. As shown in Fig. 23, Kim teaches the first LCD display 301 includes a plurality of first signal electrodes 313 and a plurality of first scan electrodes 311. The second LCD display 321 includes a plurality of second signal electrodes 333, and a second plurality of scan electrodes 331. Kim further teaches a control portion 350 (a single operator) is connected to either the first PCB 307 or the second PCB 327 via a signal supply line 340. The control portion 350 applies scanning signals to the common driver ICs 309 and to

segment driver ICs 305 and 325, the segment driver ICs 305 and 325 respectively controlling rows of data electrodes 313 and 333 to ON and OFF states (col. 8, lines 34-57).

Therefore, it would have been obvious to one skilled in the art to utilize the method of arranging and driving liquid crystal display devices as taught by Kim in combination with the method of switching between display devices in the open and closed positions as taught by Higginbotham et al. in order to increase to the capability of the display device (for example increasing the size of the display device (col. 1, lines 20-24).

In regard to claims 31 and 32, although Higginbotham et al. does not teach a flexible wire connecting the operator to the first and the second displays, as cited above, Kim teaches the first display device and the second display device are connected to each other by flexible signal lines (col. 3, lines 8-10, and col. 8, lines 48-51).

Therefore, it would have been obvious to one skilled in the art to utilize the method of arranging and driving liquid crystal display devices as taught by Kim in combination with the method of switching between display devices in the open and closed positions as taught by Higginbotham et al. in order to increase to the capability of the display device (for example increasing the size of the display device (col. 1, lines 20-24).

6. Claims 15-17, 22-24, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higginbotham et al. (U.S. Patent No. 5,896,575) in view of Kim (U.S. Patent No. 6,262,785) and further in view of Jahagirdar et al. (U.S. Patent No. 6,125,286).

Referring to claims 15-17, 22-24, as cited above Higginbotham et al. and Kim teach all the limitations of claims 15-17 and 22-24 except for a common light plate for illuminating the first and the second display.

However, Jahagirdar et al. teach a mobile device as shown in Fig. 1, comprising a first display 130 and a second display 132, and a controller 504 (Fig. 5) for generating display data to be displayed at display areas 130 and 132 by selecting one of drivers 514 and 518 to receive display data. Controller 504 controls power to backlight 522 (col. 4, lines 28-40). With reference to Figs. 8A and 8B, controller 504 controls the operation of the mobile device from an open position to closed position (block 800) (Fig. 8A), and from a closed position to open position (block 832-834). Jahagirdar et al. further teach the backlight 522 is preferably designed and positioned such that backlighting is provided for both of display elements 516 and 520 (Fig. 5, and col. 4, lines 55-58).

Therefore, it would have been obvious to one skilled in the art to utilize the teachings of backlight for LCD display as taught by Jahagirdar et al. in combination with the method as taught by Higginbotham et al. and Kim in order to reduce power consumption (col. 1, lines 30-35).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 571-272-7787. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778.

The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-2 17-9197 (toll-free).

H. Nguyen

06/24/2005

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